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ABSTRACT

Predicting the future of social systems is useful, but barely possible. Essential to the social sciences is a random element, knowledge, and there is no way of predicting what will be known in the future. The non-random elements, however, allow some predictions. Demography predicts underpopulation in developed countries and the opposite in underdeveloped countries. Economics predicts a slackening of production in America because of resource and pollution factors. Political science predicts domination by the Republican Party unless new coalitions develop. Culture may continue its emancipation direction or be stopped by a puritan or neo-fascist reaction. "Pressures for mondialization of culture are enormous." The Christian religions will continue to be adaptable, but some of the clergy are continuously more radical than the laity. Spiritual crises are more likely to the communist world because of its secular eschatology. The rate of expenditure on education in the U. S. will increase and will require more federal support. Stability is predictable in the international system. Race relations regarding American blacks will improve as they take their place in the "mosaic society." The "integrative system" will provide the real answer to success. (DJB)

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"Toward the Year 2000"

by Kenneth E. Boulding

(Presentation at the Second General Session of the Annual Meeting of the National Council for the Social Studies at Houston, Texas, November 28, 1969)

The year 2000 as a suitably magic number has roused a good deal of millenial speculation. Unlike the expectations which were aroused by the year 1000, our eschatology today is essentially secular. There is no widespread expectation, except perhaps among some of our Adventist friends, that the year 2000 will see a second coming with divine intervention, though to judge by some of the gloomier forecasts, this is about the only thing that could save us. Our image of the future now is built up mainly by projection, that is, we perceive patterns in the space-time continuum of the past and speculate on what the future will be like if these patterns persist. We do this, for instance, in predicting our own lives. One thing I know about the year 2000 is that either I shall be dead or I shall be ninety, so my personal interest in the year 2000 is somewhat remote. One is able to make a projection of this kind because the pattern of aging in human life is so remarkably stable. We have similarly stable patterns in celestial mechanics, which enable us to predict eclipses and other events in the solar system. As we go into social systems, however, we find patterns in space-time that are not stable and hence

SO 000 061

prediction in any exact sense is impossible. This is not to say that projections of social systems are not useful. They are indeed necessary in order to guide our behavior in the present, for choice is always about the future and about alternative futures. In social systems, however, these alternative futures always have a strong element of uncertainty about them. It is wise to make projections, but it is very unwise to believe them.

It is important to realize that this fundamental uncertainty in our images of the future of social systems, or for that matter even of biological systems, is not merely a matter of a deficiency in the sciences which deal with these matters. It is implicit in the nature of the systems themselves. It is not merely that we <u>do not</u> know the future of social systems. We <u>cannot</u> know the future of social systems. This is because social systems involve knowledge in a quite essential way, knowledge, that is, in the wide sense of improbable structures of information. We can demonstrate this very simply by asking ourselves could we predict what we were going to know in the year 2000. The answer is clearly no; if we could predict it we would know it now; we would not have to wait until the year 2000. Any increase in knowledge, that is, in some sense has to be surprising and one of the most important attitudes in preparing for the future is to be prepared to be surprised.

Another way of stating this vital principle is to say that social systems, and to a smaller extent biological systems, are a mixture of random and non-random elements. A random process is one in which the previous record of the process does not enable us to predict

the future, as in the throw of the dice. In a perfectly non-random process, the record of the past, if it is adequate, enables us to predict the future exactly. In a mixed process, we can say things about the future with some degree of probability, but the stronger the random elements in the system the harder it is to find out anything about it. We learn about systems by making predictions which fail, for this forces us to recognize error and to revise our image of the system. In systems with random elements in them, random that is from the point of view of our knowledge, we often do not know whether our predictions are right or not. If the meteorologist predicts that there is a 50 per cent chance of rain tomorrow, it is hard for him to be wrong, and social scientists are usually in no better shape than the meteorologists. With these solemn warnings, therefore, not to believe a word that I say, let me take some elements of the social system and project them into the future.

Demography. In the United States, fertility has been dropping dramatically since 1961, and is now the lowest on record. This means that in the seventies there will be a smaller proportion of young people than there was in the sixties and perhaps as a result much less of a youth problem. Part of the problem of the sixties was the "bulge" of fertility after 1966. This created unusually large proportions, first of children and then of young people. In the seventies, the "bulge" will move into marriage, which may increase the crude birth rate, and no one really knows what will happen to fertility, but the low fertility of the late sixties will be reflected in less pressure on

the school systems and eventually in the late seventies and early eighties on the colleges. The people who will be running the world in the year 2000 have already been born. None of them will have been traumatized by the Great Depression. The older ones may have been traumatized by the Second World War. The square students of the fifties will be between sixty and seventy and are likely to be in powerful positions. They are not likely to get much less square as the years roll by, and we may, therefore, expect conservative leadership, unless, of course, there is a strong move towards younger leaders. The generation gap of the sixties may well be reflected in conflicts between the older and the younger leaders. If present trends of fertility continue the developed world, especially, may be worrying very severely about population decline.

In the rest of the world the changes in trends are not so dramatic. On the margins of Asia, for instance, the pill and the IUD are having some effect, but for most of the Tropics the population explosion is likely to continue. Prediction here is extremely precarious. It would not be impossible to see a drop in the birth rate in this period, as dramatic as the drop in the death rate was in the 1950's. On the other hand, this may not happen, in which case the population explosion will continue with an accelerating drive towards disaster. The probabilities of widespread famine in the tropics before the year 2000 seem a little less today than they did a few years ago, mainly because of the development and rapid adoption of new strains of wheat and rice, but this probability cannot be ruled out altogether. Even

in the developed world, the ecological balance at the moment may be precarious enough so that its agriculture could be overtaken by widespread blights, which might even create a severe food problem in the Temperate Zone. On the other hand, molecular biology may open up enormous new ranges of increased food production through, for instance, artificial algae.

Economy. The proportional structure of the United States economy has been remarkably stable in the last eighteen years. There are some built-in stabilizers, like the deductible-at-source progressive income tax, but we are not sure how effective these would be against a major disturbance. A major depression seems unlikely, but it is not wholly impossible if there is a decline in gross private domestic investment. A reduction of the war industry could be accomplished easily and would relieve pressure on civilian government and almost certainly lead to a substantial expansion in that sector. The skills of economic policy which have been acquired in the last thirty years are probably enough to prevent major upheavals. As the Gross National Product continues to increase, however, the problems of exhaustion of resources at one end and pollution at the other will become more acute and the processes of economic growth may slow down substantially, simply because of the difficulties of what might be called resources capital. This is likely to become a major problem of the twenty-first century. It will only begin to be apparent in the next decade, but is likely to increase in intensity as the year 2000 approaches. We may well have some major ecological disasters inthe next thirty years which will

call attention very sharply to these problems and will result in a large increase in effort devoted to them.

In the rest of the world, development is likely to proceed perhaps at a slackening rate in virtually the whole Temperate Zone. The socialist countries may run into increasing difficulties because of what might be called the Czechoslovak syndrome, that is, economic stagnation as a result of psychological and political frustration. Western Europe and Japan may have difficulties in adjusting to somewhat slower rates of growth. It is hard to be really optimistic about the Tropics. Almost the only favorable element is the development of the new strains of wheat and rice which may save us, as noted above, from widespread famine in the seventies. We are beginning to realize, however, that the development of the Tropics is much more difficult than we thought, that it requires possibly a knowledge base and a technology which still does not exist, and that neither aid nor trade can help them very much. In the meantime the frustration of expectations may lead to political disorganization which will make the problems of development still more difficult. The history of Nigeria and the Sudan may be repeated in other places, so it is hard to be optimistic. On the other hand, one does not have to fall into the black pessimism of Myrdal.[1]

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[1]Gunnar Myrdal. Asian Drama: An Inquiry into the Poverty of Nations. New York: Pantheon, 1968.

Politics. There are signs of a minor political earthquake in the United States. The Democratic Party is a coalition of declining minorities. It has run out of ideas, no longer attracts the young and the idealistic, and there seems only a moderate likelihood that it will recover its once dominant position. It is too much identified with a militaristic and grandiose national image and with the type of social democracy which consists of subsidizing the rich in the name of subsidizing the poor. The Republican Party has more able young leaders and active new ideas, but is still haunted by memories of its "stingy" past and its association with the declining WASP establishment. It also has a powerful militaristic wing which is just as much committed to the military-industrial complex and to national grandiosity as the Democrats, and perhaps the most crucial question for the future of the Republican Party is whether the military types will gain control of it.

A very significant political factor is the psychological end of the Great Depression. This means, oddly enough, reintroduction of scarcity as a major political issue in the sense that we now realize, for instance, that every increase in the military dollar is a decline in somebody else's dollar. There is likely, therefore, to be increased criticism of the military establishment and a demand for its reduction, largely because of competing domestic pressures. The feeling of the depression generation that only a large military gives us full employment is no longer of major political importance and will decline rapidly in the future.

The two great political unknowns are the formation of coalitions and the development of charismatic personalities. A coalition of interest against the military is clearly possible, but just because it is possible does not necessarily mean that it will happen, for common interest is only one of the factors and often not the most significant factor which makes for political coalition. The rise of charismatic personalities is the other significant factor in political coalitions and this cannot be predicted at all. It is hard to know whether to hope or fear the rise of such persons. There is enough unexpressed malevolence in the United States to provide fodder for a charasmatic personality who will give political legitimation for the evil that is within us, as Hitler did. On the other hand, there is also a possibility that a charismatic personality might arise in the next thirty years who would symbolize and focus the large reservoir of simple human decency which still exists in this country.

Culture and Popular Culture. This has been an area of great transformation. Rapid transportation and communication all over the world have led to an amalgamation and a "mondialization" of cultural styles, of which perhaps the Beatles are the classic representative. We are all exposed to each other in a way that has never been the case before. This had produced a breakdown of tabu, for instance, in the drama, in literature and in the development of a cultural style which is more sensate, romantic, unstructured, and free wheeling than

almost anything that has been known previously. The drug culture is just a manifestation of this larger change. If in the seventies or after we get the pleasure wire, already possible with rats, that is, direct stimulation of the pleasure center of the brain, the possibilities of cheap and permanent ecstacy are quite frightening. In one sense this movement, as seen in its most extreme form in the hippies and nihilistic militants, is the end product of a long process of emancipation which has been going on for two or three hundred years. We may have to realize, however, that emancipation is not the same thing as liberation and that it can enchain the human spirit more dreadfully than any despotism. It seems impossible to predict whether the sensate culture will continue to expand even in its extreme forms beyond its rather limited extent at the moment or whether there will be a puritan or even neo-fascist reaction.

Outside the United States, it is even harder to predict what is going to happen in the world of manners, morals, art and so on. It would not be surprising to see a deep cultural crisis in the Communist countries, especially if expectation of rising standards of consumption are disappointed, with an increased alienation of youth and a further hankering after Western flesh pots. China is a total enigma; it has gone through an enormously traumatic period and one feels that almost anything could happen. In the tropical belt, the relative failure of development may easily produce increased withdrawal reactions, like Burma, which has in effect withdrawn from the world in an attempt to reorganize its own life in the light of its past. This phenomenon

might almost be described as Tokugawa withdrawal, as the Tokugawa period of Japan is a classic example of it. It is a form of acute culture shock. Those societies whose indiginous folk culture is not strong enough to withstand the enormous impact of the science-based superculture may easily pass into cultural shock of this kind. On the other hand, pressures for mondialization of culture are enormous and there are no signs that they will slacken.

Religion. There seems to be no tendency for religion to disappear in the developed society dominated by the superculture, but it does change its forms and become more diverse and adaptable. The transformation and rejuvenation of the Catholic Church in the 1960's was one of the most striking phenomenon of the decade. Perhaps a great problem of the Catholic Church in the next generation will be whether all this new wine can be held by the old bottles. The splits between the liberal clergy and the conservative laity and among the clergy seem quite threatening. In Protestantism one sees two different reactions to the challenge of cultural mondialization. At one end fundamentalism and adventism represent the continued vitality of the more "classical" and otherworldly variety of Christianity, which, however, oddly enough, produces very successful thisworldly adaptations, as, for instance, in the Seventh Day Adventists. On the liberal side of the Protestant Church, I suspect there is a sharp split between the radical clergy and the conservative laity, with the clergy much more willing to make adaptations to a sensate and worldly society and the laity still regarding the Church as a little island of self-legitimation and

traditional concepts in an increasingly stormy world. Perhaps this can be summed up by saying that the church is remarkably adaptable at the present time, but it is not quite sure what it wants to adapt to.

I cannot say much about the non-Christian world. The Communist world, as noted above, seems to be in the kind of spiritual crisis that is likely to overtake any faith with a secular eschatology, for the feedback from the disappointment of secular expectations is much more rapid and severe than that from transcendental expectations. The Islamic world seems to be in the deep crisis of impotence in which the Israeli David in the middle of the Islamic Goliaith is a symptom. An interpenetration of religions is unquestionably going on, as it has been for a long time with the Hindu and Buddhist ideas penetrating the Christian world and Christian ideas penetrating that of Asia. The religious world thus represents a model, as it were, of the general problem of how to adapt and change without being destroyed in the process. A biblical faith, of which Christianity, of course, is only one example, has some advantages here in the sense that the sacred scriptures are unchanging, but the interpretation of them continually changes and adapts.

Education and Research. The enormous expansion of education from about 3 to about 7 per cent of the United States economy in the last generation seems likely to continue, though at a diminished rate. There are two reasons for supposing this: one is that the total stock of knowledge continues to grow very rapidly and the more knowledge there is, the more effort has to be expended in tramsmitting it to the next generation. Otherwise, it will be lost. The other reason is that

education is a technologically unprogressive industry and hence the price of educational services continually rises, relative to the products of industries which are undergoing technical change. There is widespread dissatisfaction with the quality of the educational enterprise which may lead to major research efforts in the next generation. If we really find out anything about human learning this could be the beginnings of an enormous revolution in the state of man, but this is unlikely before the twenty-first century. The problem of the legitimation of education may become increasingly difficult, oddly enough, as the quantity of education increases, simply because once it is realized that education cannot be a universal access to privilege, society may tend to separate out rather sharply into, say, the privileged fifty per cent who get higher education and the other fifty per cent who don't. The economics of education also presents some very difficult problems in the next thirty years. When education was only three per cent of the economy it can could be financed fairly easily through the local system; as it rises towards ten per cent, the "grants economy" will no longer support it and radical changes, either towards federalization or towards the development of educational banks, are quite probable.

I suggested earlier that we cannot predict what we are going to know in the year 2000. Nevertheless, we can speculate about some of the implications of what we know now, for we do know that the application of present knowledge may take a generation or more before its impact is fully felt on society. The whole scientific revolution indeed did not really make much of an impact on economic and social

life before 1860. The lag is much shorter now. The main field where a great deal of knowledge has been generated in the last generation which has not yet found applications is in molecular biology. If we begin to get significant genetic surgery, enormous and quite frightening possibilities of change open up before us. We may recreate the extinct animals, we may be decimated by plagues from uncontrollable artificial viruses, we might even produce our evolutionary successor. This is more likely, however, to worry the twenty-first century than the twentieth.

Nationalism and the International System. The future of nationalism and imperialism is as much part of the cultural scene as it is of the political. The past twenty years have seen a remarkable delegitimization of colonialism and the virtual liquidation of the British and French empires. The Portuguese empire and the Russian empire, represented by the Soviet Union, are now the only representatives of this political form and each of these is a very peculiar specimen. Prediction in this whole area, and especially in the area of the international system in general, is extremely precarious. The extraordinary impact of the Vietnam War on the United States suggests that the United States is likely to withdraw from its extremely dominant role in the international system.

One hopeful feature of the present situation is that we are unlikely to see any substantial reversals or overtakes in the international "pecking order" in the next fifty years, at least as measured by the order of gross national products of different countries. Whereas the

last two hundred years have seen striking reversals and overtakes, the next hundred years are not likely to see this and may be an era of much greater stability in the international system than we have had hitherto. The crucial watershed here would be the achievement of stable peace in the Temperate Zone, which would involve two major phenomena--a genuine detenté between the United States and the Soviet Union and the acceptance of the Germans of the present status quo in Europe. On the other hand, deterrence, even nuclear deterrence, is intrinsically unstable in the sense that if it were stable it would cease to deter and we must always reckon on a probability, however low, of nuclear disaster. The development of chemical and bacteriological warfare techniques also is extremely ominous, as this could destroy the stability of the existing system by opening up the frightening possibility of genocidal conquest. These nightmares, however, are more likely to disturb the twenty-first century than the twentieth. There are certainly enough sources of potential trouble so that we can hardly be very complacent. It is hard to avoid a rather black pessimism about the Middle East, simply because of the intensity of malevolence which Israel has created, quite unintentionally, in the Arab world. A potential source of real trouble in North America is Quebec, where the introduction of television has just destroyed an old integrative equilibrium. China continues to be a great enigma and the possibility of a political and economic retrogression in Latin America, Africa, and Asia is great enough to be seriously disturbing.

Race and Minorities. On what might be called the racial and urban front, the future again is hard to predict. There is a positive,

but one hopes a low, probability of an extremely unattractive scenario in the United States of increasing segregation and alienation if the search of the American blacks for a more satisfactory identity leads them to reject the American identity which they now possess and to try to establish a genuine separatism. This could result in a much more repressive regime with real ghettos with walls around them and a movement toward apartheid. My own judgment is that a more agreeable scenario is more probable. The American blacks have really no place to go except in developing a special kind of American identity. They are no more Africans than the white are Caucasians. Furthermore, there are remarkable reservoirs of integrative capacity in the United States--in the church, in the universities, even in the armed forces. I hope to see a further development of black distinctiveness with a genuine dignity and quality. Black, indeed, is beautiful, and can be more so! One hopes this can happen within the framework of what I have sometimes called the mosaic society, that is, a society of many different subcultures held together by a common political framework and an ideology of toleration and mutual respect. On the other hand, this would mean abandoning the notion of the melting pot and drastic reform in the school system to permit cultural minorities to perpetuate themselves. The non-black minorities, such as the Chicanos and the Indians, even the Appalachian whites, may present a more difficult problem in the next thirty years than the blacks. The blacks are participating in the general processes of development, though with something like a twenty-year lag. The Chicanos and the Indians are not participating in it

at all and are the real outcasts from American society. It would be optimistic to suppose that this problem can be solved within a single generation.

The Urban Problem. Pressure on the cities is going to diminish simply because there are no longer any large rural populations to go into them. The urban problem is to some extent a by-product of extraordinary technological success in agriculture. This is a one-shot phenomenon. Whereas we have had the feeling in the last generation that the problems have been growing faster than our capacity to solve them, it is quite possible that this will be reversed and that our problem-solving capacity in the cities will overtake the rise in the problems. Militancy beyond a certain point is likely to be extremely unrewarding for it produces a much more effective counterthreat. The dynamic processes here, however, are subtle and precarious and prediction is very difficult. A great deal would depend on whether the domestic pressures on the grants economy will force us into adopting a more modest posture in the international system and hence allow us to release resources from the war industry for domestic uses. A great deal depends also on whether the political atmosphere will permit an expansion of the grants economy, and especially of the public sector, for the solution of the problems of poverty and the inadequate structure of the public goods in the urban areas. The problem here is a good Toynbean one of challenge and response and it is very hard to say which way it will come out. At least a modest optimism is not unreasonable.

My studies of social dynamics have convinced me that the most dominant of all systems within the social system is what I have called the integrative system, that which by inputs and outputs of information produces identity, community, legitimacy, loyalty, trust, and so on, and, of course, their opposites. The critical question, ~~both for the~~ United States and for the world, in the next hundred years is whether the integrative forces are going to be greater than the disintegrative ones. This means that all those who belong to what might be called the integrative industry and who specialize in producing integrative communication, whether universities, the church, or social workers, perhaps have the greatest responsibility for the success or the failure of the next thirty years.

12